Jan 1st, 12:00 AM

Developing a scale to measure problems in finding a good fit

Eonyou Shin
Virginia Tech, eonyous7@vt.edu

Te-Lin Chung
Iowa State University, tdchung@iastate.edu

Mary Lynn Damhorst
Iowa State University, mldmhrst@iastate.edu

Daniel W. Russell
Iowa State University, drussell@iastate.edu

Developing a scale to measure problems in finding a good fit

Eonyou Shin, Virginia Tech, USA
Te-Lin Chung, Mary Lynn Damhorst, and Daniel W. Russell, Iowa State University, USA

Keywords: fit problems, scale development, reliability, validity

Significance and Conceptual Background. Fit is an important concept in the apparel field. Shin and Damhorst (2018) discovered that young consumers had experienced difficulties in the past with ill-fitting garments in both shopping and use situations. They also identified that consumers evaluate fit with three aspects: physical, aesthetic, and functional (Shin & Damhorst, 2018). Physical fit refers to "features of fit that are physically perceived in terms of the relationship between clothing and body, such as tightness and length" (Shin, 2013, p. 44). Aesthetic fit is defined as "features of fit that are visually perceived and assessed when looking at an individual's dressed body, such as overall appearance related to the body and attractiveness" (Shin, 2013, p. 44). Functional fit refers to "features of fit that are perceived when the dressed body is moving for activities, related to restriction or lack of restriction of movement" (Shin, 2013, p. 44). These three aspects of fit have been confirmed by previous studies of consumer online reviews that female consumers evaluated and reported on online rented formalwear (McKinney & Shin, 2016; Shin & McKinney, 2017).

The present research conceptualized problems of finding a good fit (PFGF) as a consumer's generalized perception of fit problems based on prior experience with physical, aesthetic, and functional aspects of clothing. Although researchers have qualitatively investigated fit and conceptually defined multiple aspects of fit, no measures have yet been developed to assess the degree of PFGF in general across the three aspects perceived by consumers. Developing the scale of PFGF is important because (1) prior experience is a crucial determinant of behavior (e.g., Ajzen & Fishbein, 1980), and (2) PFGF with ready-to-wear is a consequence of physical and psychological discomfort resulting at least in part from the ideal body image promoted by the fashion industry (LaBat & DeLong, 1990). A reliable and valid measure of perceived PFGF will broaden an understanding of consumers' past experiences with fit by capturing all three aspects more accurately. Thus, the purpose of this study was to develop a scale for measuring perceived PFGF.

Method. Scale development took place in three steps: (1) item generation from previous focus group interviews; (2) preliminary quantitative tests of reliability and validity of items, including confirmatory factor analyses (CFA); and (3) final scale validation through a nomological test.

Results. In Step 1, an initial pool of 20 items was generated to assess perceived PFGF in terms of three dimensions (physical, aesthetic, and functional) which were identified through focus groups in a previous study of (Shin & Damhorst, 2018): Four items for the physical dimension of PFGF to measure problems related to overall size, tightness, and length; nine items for the aesthetic dimension of PFGF ,encompassing the difficulties in finding apparel that provides a visually good fit related to the appearance of the body, physical modesty and attractiveness; and eight items for the functional dimension of PFGF, encompassing the difficulty in finding apparel that accommodates movement. Face and content validity were confirmed by two experts in the apparel field, judging

whether the instrument appeared to assess the desired constructs and whether the items covered all domains of the construct.

In Step 2, a preliminary test of reliability and validity of the PFGF scale was conducted. A sample of 238 female and 96 male respondents with a broad range of ages (18-73 years old) and geographic locations in the United States participated through Amazon's Mechanical Turk (M-Turk). Items were rated on a 7-point Likert-type scale, ranging from strongly disagree to strongly agree). As a result of a series of CFAs, six items (three items from aesthetic and functional dimension, respectively) were eliminated to reasonably improve the model fit. The model with 14 items and three factors was found to fit the data very well ($\chi^2 = 190.13$, $df = 74$, $p < .0001$, RMSEA estimate of .07, CFI of .97, TLI of .96, and SRMR of .04). Reliability (Cronbach's *alphas* = .84-.94) and discriminant validity (significant chi-square differences between the one, two, and three factor models) were achieved. Convergent validity was not tested because there were no similar scales.

In Step 3, to further validate the PFGF scale, female respondents ($n = 418$) with a broad range of ages (18-83 years old) completed a survey through M-Turk. As a result of CFA, one item in the functional dimension was eliminated. The model with 13 items and three factors was found to fit the data very well ($\chi^2 = 168.88$, $df = 62$, $p < .0001$, RMSEA estimate of .07, CFI of .97, TLI of .96, and SRMR of .04). Further tests confirmed that the scale had reliability (Cronbach's *alphas* = .80-.92) and discriminant validity established through replicated analyses from Step 2. Nomological validity of the scale was tested based on the correlations between the three dimensions of PFGF (physical, aesthetic, and functional) with two subscales of body esteem/body esteem-appearance (BE-A) and body esteem-weight (BE-W) (Mendelson, Mendelson, & White, 2001). The two subscales were chosen because they were conceptually close to the definition of general body satisfaction. According to many previous studies, body satisfaction is positively related to an individual's fit satisfaction (e.g., LaBat & DeLong, 1990). Similarly, an individual's PFGF may be negatively related to the two subscales of body esteem. The test for nomological validity showed that all three dimensions of PFGF (physical, aesthetic, and functional) were negatively correlated with BE-A (correlations ranged from -.15 to -.37), and the physical and aesthetic dimensions were negatively related to BE-W (-.27 and -.36 respectively).

Conclusions and Implications. A scale for measuring perceived PFGF that incorporates a solid conceptualization of three dimensions (i.e., physical, aesthetic, and functional fit) was developed in this study. This study contributes to the literature of consumer fit perceptions by developing a scale to assess PFGF that may be a key factor influencing multiple apparel shopping behaviors, such as returning unsatisfactory products and online shopping conversion rate. The multidimensional scale of perceived PFGF should be useful to apparel product developers and designers by providing solutions to PFGF based on information from customers. Better understanding of perceived PFGF will ultimately increase consumer satisfaction with apparel.

References

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior.* Prentice Hall: Englewood Cliffs, NJ.

LaBat, K., & DeLong, M. (1990). Body cathexis and satisfaction with fit of apparel. *Clothing and Textiles Research Journal, 8(*2), 43-48.

McKinney, E., & Shin, E. (2016). Exploring criteria consumers use in evaluating their online formal wear rental experience: a content analysis of online reviews. *Clothing and Textiles Research Journal, 34*(4), 272-286.

Mendelson, B. K., Mendelson, M. J., & White, D. R. (2001). Body-esteem scale for adolescents and adults. *Journal of Personality Assessment, 76*(1), 90-106.

Shin, E. (2013). *Exploring consumers' fit perception and satisfaction with apparel fit in general.* (Unpublished master's thesis). Iowa State University, Ames.

Shin, E., & Damhorst, M. L. (2018). How young consumers think about clothing fit? *International Journal of Fashion Design, Technology and Education,* doi: 10.1080/17543266.2018.1448461.

Shin, E., & McKinney, E. (2017). Exploration of fit reviews and its impact on ratings of rental dresses. *Fashion, Industry, and Education, 15*(2), 1-10.